### AWIPS TIPS FOR IMPROVED SYSTEM PERFORMANCE

The following is a checklist of actions which can be performed to ensure that your AWIPS

system is operating at optimum performance. These actions can be performed prior to anticipated severe weather. 1....1. On the Linux workstations, every Day shift (And every shift prior to Severe Weather) reset the X Server: A. Exit all D2D and applications running on the workstation. B. Log out of the workstation so that you return to the Login Screen. C. Simultaneously press the <Ctrl>, <Alt> and <Backspace> keys to reset the X Server. All 3 graphic screens on the Linux workstation should temporarily go blank as the current X Server is terminated and a new X Server is restarted. ....2. On the HP text workstations, every Day shift (And every shift prior to Severe Weather) reset the X Server: A. Exit all D2D and applications running (Including Text) and then log out of the workstation. B. Reboot the HP text workstation by powering off and then powering on the HP text workstation. 1...3. Contact the NCF (301-713-9344) and notify the NCF that you will be stopping and restarting the ingest processes on the servers. The NCF receives alarms whenever ingest processes are stopped and restarted. Your phone call will notify the NCF that the ingest processes which are being terminated is a planned activity and not a software fault which must by corrected by the NCF. This is also an appropriate time to ask the NCF to place your site in Critical Weather Monitoring. 4. Before a Severe Weather shift, restart all processes on the DS and AS servers. If the ESA, SOO, ITO or AFP are not in the office, the staff (Lead Forecaster decision) can call NCF and ask the NCF to restart the processes.

A recommended procedure for restarting all processes on the DS and AS servers is as follows:

**Step A**: As the *root* user on the *DS1* server, run the *cmviewcl* command to verify that the swap packages are running in a normal configuration. Here is an example of the cmviewcl command from the ds1-nhow system which can be used as a reference.

The first section of this cmviewel example output indicates that the AS1 server is hosting the as1swap package:

```
NODE STATUS STATE
as1-nhow up running

PACKAGE STATUS STATE PKG_SWITCH NODE
as1swap up running enabled as1-nhow
```

The second section of this cmviewel example output indicates that the AS2 server is hosting the as2swap package:

```
NODE STATUS STATE
as2-nhow up running

PACKAGE STATUS STATE PKG_SWITCH NODE
as2swap up running enabled as2-nhow
```

The third section of this cmviewel example output indicates that the DS1 server is hosting the dsswap package and the DS2 server is running and available for a DS1—>DS2 failover:

```
NODE
        STATUS
                 STATE
ds1-nhow up
              running
 PACKAGE STATUS
                    STATE
                             PKG SWITCH NODE
               running enabled
                               ds1-nhow
 dsswap
        up
        STATUS
                 STATE
NODE
ds2-nhow
        up
              running
```

If the as1swap, as2swap and dsswap swap packages are not running on the AS1, AS2 and DS1 servers respectively, contact the NCF.

**Step B**: To restart the fxa ingest processes running on the DS1 server, enter the following commands as the *fxa* user on the *DS1* server:

stopIngest.ds1
stopTextDB.ds1
ps -ef | grep fxa
startTextDB.ds1
startIngest.ds1

(verify all fxa ingest processes are terminated before restarting)

**Step C**: To restart the Idad ingest processes on the DS1 and LS1 servers, enter the following commands as the *Idad* user on the *DS1* server:

stopLDAD.sh
ps -ef | grep ldad (verify all ldad ingest processes are terminated before restarting)

remsh ls1 "ps -ef | grep ldad" (verify all baseline ldad ingest processes are terminated before restarting. The suaReceiver, watchDogExternal.sh, CO\_serv, newLDADdataNotification, MakePROCpage and MakeLDApage processes should not be running)

startLDAD.csh

**Step D**: To restart the fxa ingest processes running on the AS1 server, enter the following commands as the *fxa* user on the *AS1* server:

**Step E**: To restart the fxa ingest processes running on the AS2 server, enter the following commands as the *fxa* user on the *AS2* server:

....5. Before a Severe Weather shift, restart all processes on the PX servers. If the ESA, SOO, ITO or AFP are not in the office, the staff (Lead Forecaster decision) can call NCF and ask the NCF to restart the processes.

A recommended procedure for restarting all processes on the PX servers is as follows:

**Step A**: As the *root* user on the *PX1* server, run the *clustat* command to verify that the cluster status on px1 is running in a normal configuration. Here is an example of the clustat command from the px1-nhow system which can be used as a reference.

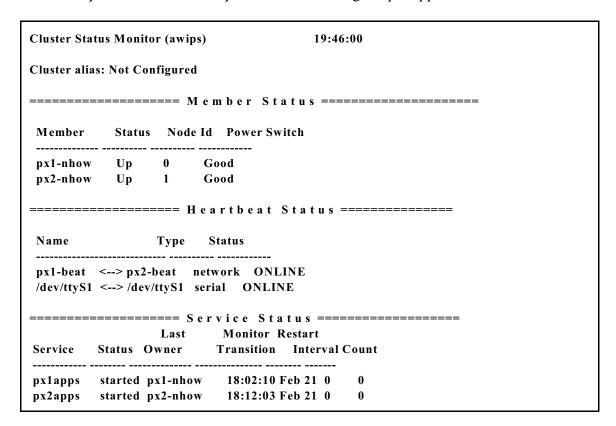
This clustat example output indicates that the px1 server is running the px1apps service:

Cluster Status Monitor (awips) 19:39:00
Cluster alias: Not Configured
======= Member Status =========
Member Status Node Id Power Switch
px1-nhow Up 0 Good
px2-nhow Up 1 Good
======= Heartbeat Status =======
Name Type Status
px1-beat <> px2-beat network ONLINE /dev/ttyS1 <> /dev/ttyS1 serial ONLINE
======== Service Status =========
Last Monitor Restart
Service Status Owner Transition Interval Count
px1apps started px1-nhow 18:02:10 Feb 21 0 0
px2apps started px2-nhow 18:12:03 Feb 21 0 0

If the px1 cluster is not running in a normal configuration, contact the NCF.

**Step B**: As the *root* user on the *PX2* server, run the *clustat* command to verify that the cluster status on px2 is running in a normal configuration. Here is an example of the clustat command from the px2-nhow system which can be used as a reference.

This example indicates that the px2 server is running the px2apps service:

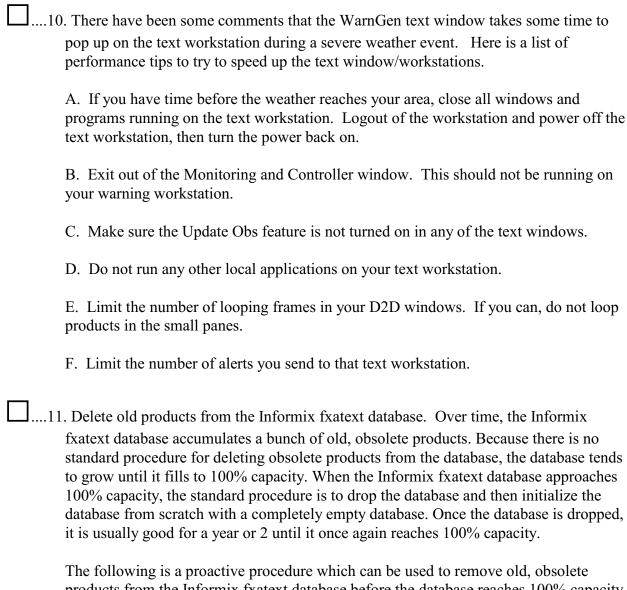


#### If the px2 cluster is not running in a normal configuration, contact the NCF.

**Step C**: To restart the fxa ingest processes on the PX1 server, enter the following commands as the *fxa* user on the *PX1* server:

**Step D**: To restart the fxa ingest processes on the PX2 server, enter the following commands as the *fxa* user on the *PX2* server:

☐6.	Test WarnGen. This is especially important if WarnGen has not been used in a while
	or recent software changes have been made to AWIPS. There are various AWIPS configuration changes, software installs, or localizations that may have adversely affected WarnGen without your knowledge. Start a WarnGen session, select your items on the WarnGen menu, manipulate the warning box, and press "Create Text". Verify that the warning looks OK in the text window. Depending on the circumstances and local operational procedures, you may want to transmit a test warning and check that it was disseminated. Be certain that the product is clearly identified as a test! If it's not appropriate to transmit the test, then exit.
□7.	If you have not already asked the NCF to perform Critical Weather Monitoring on your AWIPS system, call the NCF (301-713-9344) and request that service.
□8.	There is a significant performance cost when utilizing Informix fxatext triggers. To maintain an acceptable level of performance on the DS, the use of triggers should be minimized. To speed up the DS, for all triggers, use the textdb -w if necessary. Do not use the textdb -r option on any of them. Also only run a trigger once per PIL. If you need to run multiple applications on the same PIL, use the C-Shell or Posix shell script to run all applications. This way your number of triggers is much smaller.
□9.	



The following is a proactive procedure which can be used to remove old, obsolete products from the Informix fxatext database before the database reaches 100% capacity. This procedure uses 2 scripts which were delivered with OB3: db-diagnose.sh and purge-by-time.sh. Both the db-diagnose.sh and purge-by-time.sh scripts should be run on the **DS1** server by the **fxa** user.

The following procedures should only be used by AWIPS sites which have installed OB3.1.

The db-diagnose.sh script examines the Informix fxatext database and reports the number of products which exceed a criteria age. The db-diagnose.sh command line arguments are the product category and the criteria age. The product category is the 3 character AWIPS PIL NNN category ID such as MTR, TAF or ZFP. The criteria age is the minimum age in days. For example to see how many MTR category products are older than 100 days, the db-diagnose.sh command would be:

### db-diagnose.sh MTR 100

The **db-diagnose.sh MTR 100** command creates the /tmp/MTR-old file which contains one entry for each MTR whose age exceeds 100 days. In this example, to determine exactly which MTR products exceed 100 days old, examine the contents of the /tmp/MTR-old file. In this example, to count the number of MTR products that are older than 100 days, issue the command:

# wc -l /tmp/MTR-old

The db-diagnose.sh script can be used to examine each individual NNN category by running the db-diagnose.sh script against each individual NNN category and then examining the /tmp/NNN-old file. There is also an ALL option which can be used to examine every category in the database. The ALL option reports the top 10 NNN categories which exceed the criteria age. For example, to see the top ten products whose age exceeds 100 days, the command would be:

# db-diagnose.sh ALL 100

When the db-diagnose.sh ALL 100 command was run on one AWIPS system, the following information was reported back:

The ten categories containing the most products at least 100 old:

480 FEX 488 RR6 851 FOS 863 TAF 14408 MTR 2183 MEX 2306 PIR 3293 WRK 3908 MAV 4056 FAN

The db-diagnaose.sh ALL 100 command creates the /tmp/ALL-old file.

To delete old products from the Informix fxatext database, use the purge-by-time.sh script. The purge-by-time.sh command line arguments are the product category and the criteria age. The product category is the 3 character AWIPS PIL NNN category ID such as MTR, TAF or ZFP. The criteria age is the minimum age in days. For example to delete all of the MTR products which are more than 100 days old, the command would be:

### purge-by-time.sh MTR 100

Here is a procedure for using the db-diagnose.sh and the purge-by-time scripts. The purge-by-time.sh script should only be run after your AWIPS system has OB3.1 installed.

- A. Log into the **DS1** server at the **fxa** user.
- B. Change directories to the /home/awipsadm/scripts directory.
- C. Run the db-diagnose.sh command to determine the top 10 products whose age exceeds 100 days by entering the command:

# ./db-diagnose.sh ALL 100

D. Run the purge-by-time.sh command to delete products whose age exceeds 100 days. For example to delete the obsolete FAN products whose age exceeds 100 days, enter the command:

./purge-by-time.sh FAN 100

Email suggestions about this document to Wayne.Martin@noaa.gov.